New York Notebook, N-85-12-08

This notebook covers the periods December 1885 and February 1886. All of the entries are by Edison. The names of John F. Ott and Martin Force appear frequently as witnesses. The first page of the notebook contains a notation by Edison that "this book is to contain ideas as to the discovery of a new mode of motion or energy and also to the conversion of heat directly into electricity." He apparently called this potential new source of energy "XYZ." The one entry from February 1886 relates to carbons for arc lights. The spine is labeled "26." The book contains 288 numbered pages.

Blank pages not filmed: 66-199, 204-288.

X E-172 N-85-12-08

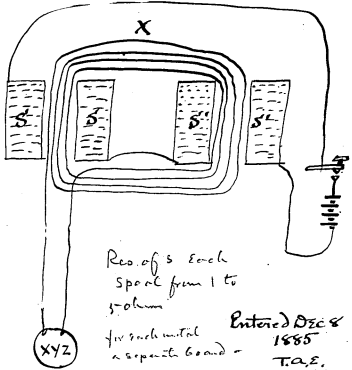
No 4098
Manufactured by
ARTHUR S. BOX & CO.
MANUFACTURERS OF
55 CEDAR STREET
New York

This book is to contain ideas as to the discovery of a new mode of motion or energy and also to the conversion of heat directly into electricity

Dec 8 1885

Thos A Edison

12. Boards 5 x 4 in ½
52 Blotting paper



Reo. of 5 Each
Spool from 1 to
5 ohm
for each metal
a separate board –

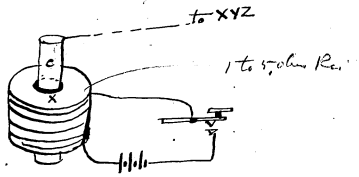
Entered Dec 8
1885
T.A.E.

X all the different metals insulated in form of wire, the Ends connected to every form of XYZ just made for detecting a new form of energy —

S S' Copper wire spools.

1 Base 4 x 5 = 1/2

4 Binding posts



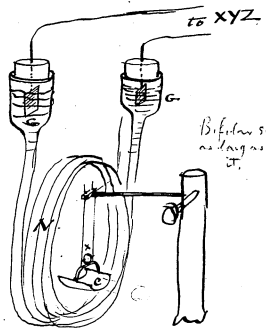
C is various metals
X Hard rubber + other bushings

entered Dec 8 1885
TAE
J. F. Witt

Use Ethereiscope as an XYZ detector.

Roll Sulphur with every metal in every solution, every metal with another in every solution, both insulating and non-insulating fluids.

Entered Dec 8 1885 FAE. J. T. Dff

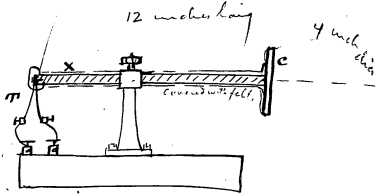


X a narrow C a pan for laying every kind of matter. Bifilar suspension—

N coil of glass tubing filled with various solutions conducting and non-conducting

G G Electrodes of various materials conducting & non—

Entered Dec 8 1885 G.A.E. J. T. Bottomley



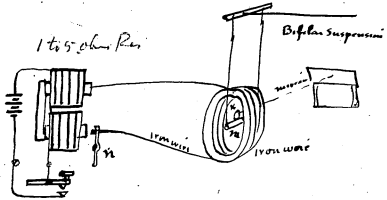
Thermo piles - german silver & Copper -

Conduction of radiant heat through hard rubber X is 1/2 stick hrubber one end a thermo couple with mirror gal other end disc rubber, the stick + thermo covered with felt etc prevent conduction to air.

Chart 16 X 6 = 5/8

Entered Dec 8 1885 TAE J. F. Dow

Lead and lead, one plate peroxidized in every solution, (Otto Zinc & Carbon also peroxidized by Manganeese in every solution.

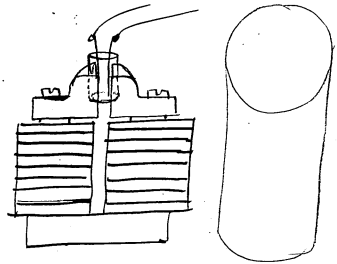


n for making and breaking contact with iron core.

m cores of all materials.

Bore 10 × 5 = $\frac{5}{8}$

Entered Dec 8 1885 T.A.E. J. F. Ott

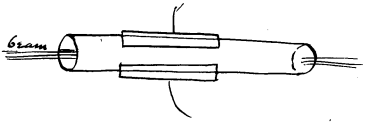


Try all the metals in and out of a magnetic field, also open and close the magnetic field to get an independent effect ——

Base 8 X 10 = 1 in

Entered Dec 8 1885. G. F. U.

Passing a beam of heat or light through a liquid causes absorption of energy, hence devise conditions, that instead of heat, it goes to conductors,



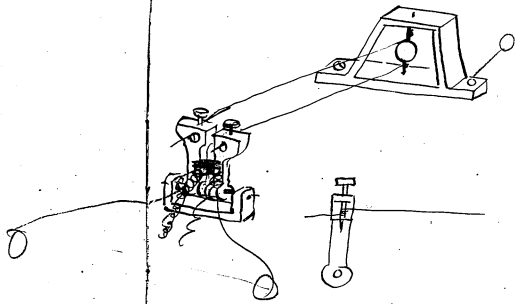
glass ends, Rubber tube, also jointed metallic tubes, also glass tubes were sealed in side and tube. Blackened, Fill tubes various Liquids

Entered Dec 8 1885 Page

Hard rubber disc 3/16
narrow chamber filled
with liquid, small specific
heat, index tube, of glass
Heat thrown on disc moves
column liquid ——

Dec 8 x 4 = 2

Entered Dec 8 1885 TaE



Expansion mirror indicator.

Entered Dec 8 1885 - Tat

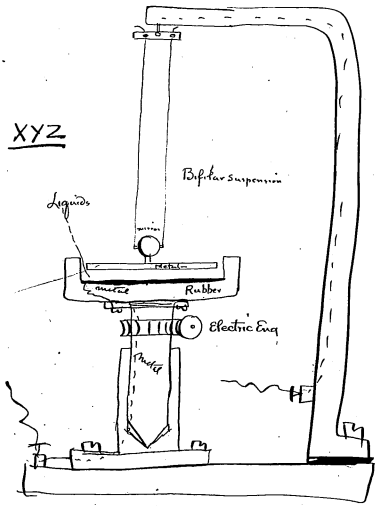
Solutions, (12) dissolving substances liberate or absorb heat, hence use all solutions with all metals and disolve various things in the solutions

gold plated,

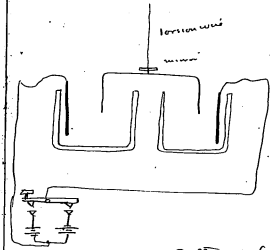
Entered Dec 8 1885 T.A.E.

Cross 6 × 8 = 48

XYZ



Entered Dec 8 1885 — J.A.E.



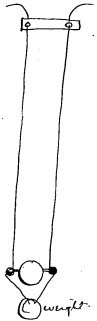
Different Liquids

Platinum Electrodes

Entered Dec 8 1885 Taf.

XYZ

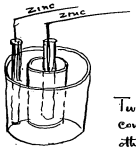
$5 \times 6 = \frac{1}{2}$



Cord moistened with various solutions also animal strings –

Entered Dec 8 1885 T.A.E. ____

J. F. Hill



Two different liquids which combine (or) acid & alkali, also other liquids with react on each other & exchange places.

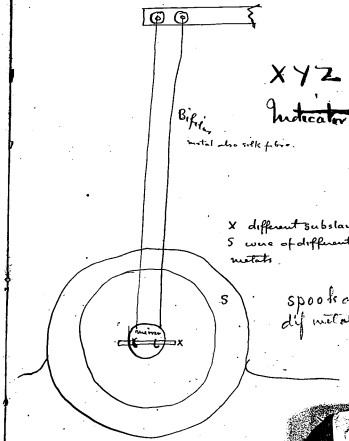
Act of re-combination gives energy hence try all solutions and all metals with every XYZ indicating instrument.

Box 5 x 6 ½

Entered Dec 8 1885 T.A.E.

J. F. Ott

all connection wires same material as spool is wound with —



XYZ

Indicator.

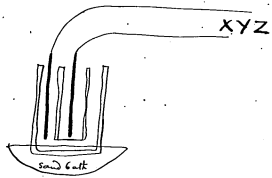
X different substances
S wire of different metals

spools of every dif metal wound.

Dec 8 1885 Entered T A E –

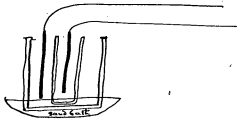
J. F. Otto

Get Tyndalls work on Thermics –
make light and heat filters.



Carbon + Carbon – also various metals
like and unlike – water in one +
Ethyl Iodide (10) best + poorest conductor
heat.

Entered Dec 8 1885 L.A.E.
J. F. Otis



One part of cell water acidulated
porous cell, good conducting liquid
having lowest specific heat, hence
by heating the water will for long
time, on account of its high specific
heat be the coolist, + we should
get a big thermo current
Carbon electrodes to be used,
Cooling gives also a Current

Entered Dec 8 1885 = TAE g. E. C.

Best method of ascertaining new source of energy without use of unknown indicating apparatus is to. take for instance plate of Zinc and a plate of every known other substance, and immerse these in every kind of liquid, first carefully weighing each plate, then short circuit them and leave them in the liquid for one month or less, if there has been any action due to association the scales will show – a pair not connected (IE) short ckted should be put in the same solution,

Suppose we take Zinc as one plate and Hard rubber, Sulphur, Lead tin Zinc + all the metals, Carbon Sulphides, phosphides Selenides arsenides, wood glass, glue, Dextrin, Slate, Gutta Percha

mica, peroxides, paper, moulded sheets of various materials, paraffine, Rosin, asphaltum, moulded oxides,

Place these in solutions of salts where galvanometer shows no electricity -
use, Bisulphide Carbon, Benzine, Carbolic acid, + kindred solutions,

Then substitute for the Zinc some other material + so on this will require several thousand Experiments,

Entered Dec 8 1885 — TAE

Supposing the Conducting wire of a submarine Cable was coated $\frac{1}{32}$ of an inch thick with a selenide, phosphide or amorphous phas that was a true conductor but very high, so the resistance between the wire for one mile of cable if the exterior was coated with copper over the selenide was 500 ohms would not the Electrostatic capacity of the Cable be enormously reduced when the dielectric was in contact with the selenide, It would have to charge the dielectric through a high resistance,

Entered Dec 8 1885 J. T. Otto

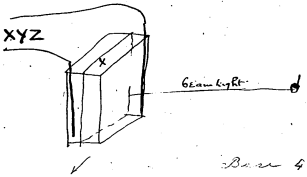
It seems to me if an instrument such as an Electromotograph Mirror (not) was used on the Cable and a Battery of iron + copper in water or even less Electromotive force that the Cable would not be charged on signalling as the dielectric is already charged to the potential of Copper + iron. It is in fact a single Cell of Copper and iron, the dielectric being charged accordingly consequently if you signal with an Emf equal to this it should not charge the Cable. I have constructed a Condenser of iron + Copper & the charge is different according to the direction of the Current,

J. F. Otto

This explains the discrepancy noticed by Cable Electricians between the P + N charging currents.

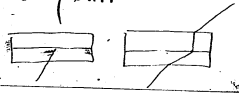
Entered Dec 10 1885 — Tae

J. F. Witt



Box 4 x 5 ½

glass cell. X transparent porous septum say parchmentized paper. Each liquid has different refrangibility. passing beam concentrated are light rapidly across cell make XYZ may be standing stiff.



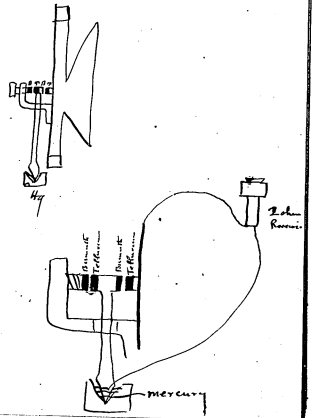
Entered Dec 10 1875 TAE

J. F. W.

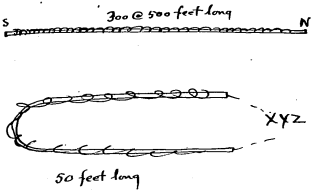
Proposition, iron alters magnetism by heat, nickel more so; hence surround iron core by wire, balance in bridge, + use current to magnetize core, then by a beam or hot copper bar heat one iron core suddenly = if we get a jump in the mirror, ~~we~~ ok = In practice hot + cold water could alternately be passed through steel magnets covered with Coils + with Commutator get a Constant current.

Entered Dec 10 1885 GAE

Thermic reverser phone.



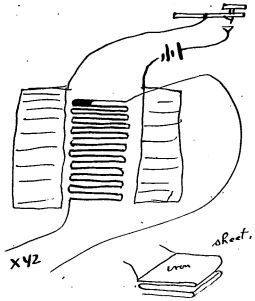
Entered Dec 10 1885 TAE J. F. Otto



No 4 Iron wire wound uniformly with say 22 wire - + the iron wire magnetized -

Entered Dec 10 1885 TAE

g F 1.15



Carbon for arc Light Experiments

Feby 17 1886 — J. S. Otto
M. N. Ford

Licorice dissolved in water is to be used in every proportion, It is to be mixed thirdly with the different Carbon powders put in the mixer & the mixer heated up to 220 to 250 to drive off all the water you can continue this for different times until the licorice is solid & will just bind the Carbon together in the press —

Make samples of every kind of proportion of lampblack — with hard Carbon also with the petroleum Carbon also lampblack alone — also hard Carbon alone also petroleum Carbon alone ——

The do ~~this~~ all the Experiments over again using Coal tar as a base instead of licorice

11673
10767
906

10767
210
10977

2009
35-42
15-00
3 1 2
74
3000
2000
30
10917
2030
8887

The do them all again with Sugar as a base, J. T. Cliff MCHF

also with Wood tar as a base;

also with Copal varnish as a base;

o

also take some of the unburnt petroleum Carbon powder & without mixing anything with it press it that & squeeze it hot, It softens —

also try Experiment after all the different Carbons have been Mice freely Carbonized at the Lamp factory and after burning a couple to get their burning time to rig up a place in Laboratory where you can bring up a mould just to a dull red or little below —

Then take one or two of the remaining Carbons of that batch & soak in liconice water, heating the Carbons to 200 or 300 on sand bath before plunging in liconice syrup — then after it has remained in for 2 or 3 hours take out put in Mould & bring gradually to 900 or 900 fahr — then take it out again resoak & recarbonize see how many times you have to do this to get 12 hours burning

J. F. Otto

also try soaking in sugar syrup
also in thick Coal tar, also
pitch –

Hard Rubber. sealing wax
Vulcanized Fibre
Celluloid
Mica
Glass.
Woods.
Leatheroid.
Plates of gums,
Parchment paper pasteboard,
Pasteboard,
Pasteboard gapanned
Hard Calendered pasteboard Manilla,
Ivory.
Bone,
Horn
glue
Glue + wood etc mixed,
Amber
Porcelain
Earthenware.
Plaster Paris soaked paraffine + liquid insulator
Marble
Slate.

Insulators Soft.

Soft rubber
Balata,
Celluloid as collodion
Vulcanized fibre glycerined
Leather paraffined or gummed.
Gutta percha,
Vulcanized Bitumen - Asphaltum,
Oxidized Linseed oil
Copal gums softened,
Asbestos paper